Australian Bureau of Statistics

# 6202.0 - Labour Force, Australia, May 2013 Quality Declaration

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## NEW LABOUR FORCE SAMPLE DESIGN

### NEW LABOUR FORCE SAMPLE

Every five years the ABS reviews the Labour Force Survey (LFS) sample design to ensure that the sample continues to accurately represent the Australian population.

The new LFS sample is being phased-in over the four months from May to August 2013. During this phase-in, there will be a short-term impact on the standard errors of the labour force estimates. Introducing two rotation groups from the new sample per month (compared to the usual introduction of one rotation group each month) reduces the proportion of common selections each month over the period between May and August 2013. As a result, the standard errors on month-to-month movement estimates are predicted to increase by approximately 10% during this period. There is expected to only be a marginal impact on the quality of level estimates. Any impacts are reflected in the estimates published in this issue of the Labour Force publication, and the confidence intervals for the key estimates are presented in the Notes on page 2 of this publication.

### BACKGROUND

Every five years, following the availability of data from the Census of Population and Housing (Census), the ABS reviews the LFS sample design. While the design has remained broadly the same since the introduction of the LFS, the review ensures that the survey sample continues to accurately represent the Australian population, and remains efficient and cost-effective. This review, based on 2011 Census data, has been completed and the new sample commenced implementation from the May 2013 LFS. For the key LFS estimates, the 2011 sample design generally maintains standard errors at the levels targeted under the 2006 sample design.

The Information Paper: Labour Force Survey Sample Design, May 2013 (cat. no. 6269.0) provides detailed information on the LFS sample design. It also outlines changes made for the 2011 design which include:

- the use of a new Australian Statistical Geography Standard (ASGS) for sample selection and output;
- the roll-out of the new sample over a four month period; and,
- the decoupling (separation) of the samples for the Monthly Population Survey (including the LFS) and for Special Social Surveys.

### PHASE-IN OF THE NEW SAMPLE

The sample is being phased-in over the four month period May 2013 to August 2013. Over the

four months, the LFS sample will become progressively smaller because the 2011 sample is smaller than the sample size used in the first half of 2013. The standard errors will progressively change from the levels appearing in the April 2013 issue to the new levels by September 2013.

As noted earlier, there will be an additional short-term impact on the standard errors during the phase-in of the new sample with the standard errors on month-to-month movement estimates predicted to increase by approximately 10% during this period. This is an improvement on the 22% increase in movement standard errors reported in Labour Force, Australia, July 2012 (cat. no. 6202.0) because the multipliers used in composite estimation have since been optimised for the phase-in to reduce the impact of the increase in rotation. From August 2013, standard errors are expected to align with the design standard errors. To calculate the standard errors for estimates during the phase-in and the predicted standard errors for the new sample, a data cube is available in the Labour Force Survey Standard Errors, Data Cube, May 2013 (cat. no. 6298.0.55.001) that allows the calculation of the standard errors.

## EXAMPLE OF MOVEMENT ESTIMATES IMPACT DURING THE SAMPLE PHASE-IN

The table below presents examples of the increase in the confidence interval on the month-to-month movements in the seasonally adjusted series during the phase-in months.

**EXAMPLES OF MOVEMENTS IN SEASONALLY ADJUSTED SERIES BETWEEN TWO CONSECUTIVE MONTHS**(a)

| | | Movement standard errors under the 2006 sample design | | | Estimated movement standard errors during the phase-in of the 2011 design | | | Predicted movement standard errors under the 2011 sample design | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Monthly change | 95% Confidence interval | | | 95% Confidence interval | | | 95% Confidence interval | | |
| Total Employment | 50 100 | -5 100 | to | 105 300 | -10 620 | to | 110 820 | -6 900 | to | 107 100 |
| Total Unemployment | -2 700 | -36 900 | to | 31 500 | -40 320 | to | 34 920 | -38 700 | to | 33 300 |
| Unemployment rate | 0.0 pts | -0.2 pts | to | 0.2 pts | -0.2 pts | to | 0.2 pts | -0.2 pts | to | 0.2 pts |
| Participation rate | 0.2 pts | -0.2 pts | to | 0.6 pts | -0.2 pts | to | 0.6 pts | -0.2 pts | to | 0.6 pts |

(a) The example uses the results presented in April 2013 issue of Labour Force, Australia (cat no. 6202.0).

As shown in the example in the table, if employment increased by 50,100 from one month to the next under the 2006 sample design, with 95% confidence the actual change in employment is predicted to be between a decrease of 5,100 and an increase of 105,300 persons. However during the phase-in period, the 95% confidence interval would increase to between a decrease of 10,620 and an increase of 110,820. Once the 2011 sample design is completely phased-in, with 95% confidence, the actual change in employment is predicted to be between a decrease of 6,900 and an increase of 107,100. The table also shows that the 95% confidence interval during the phase-in period does not change for the month-to-month movements in the unemployment rate or participation rate.